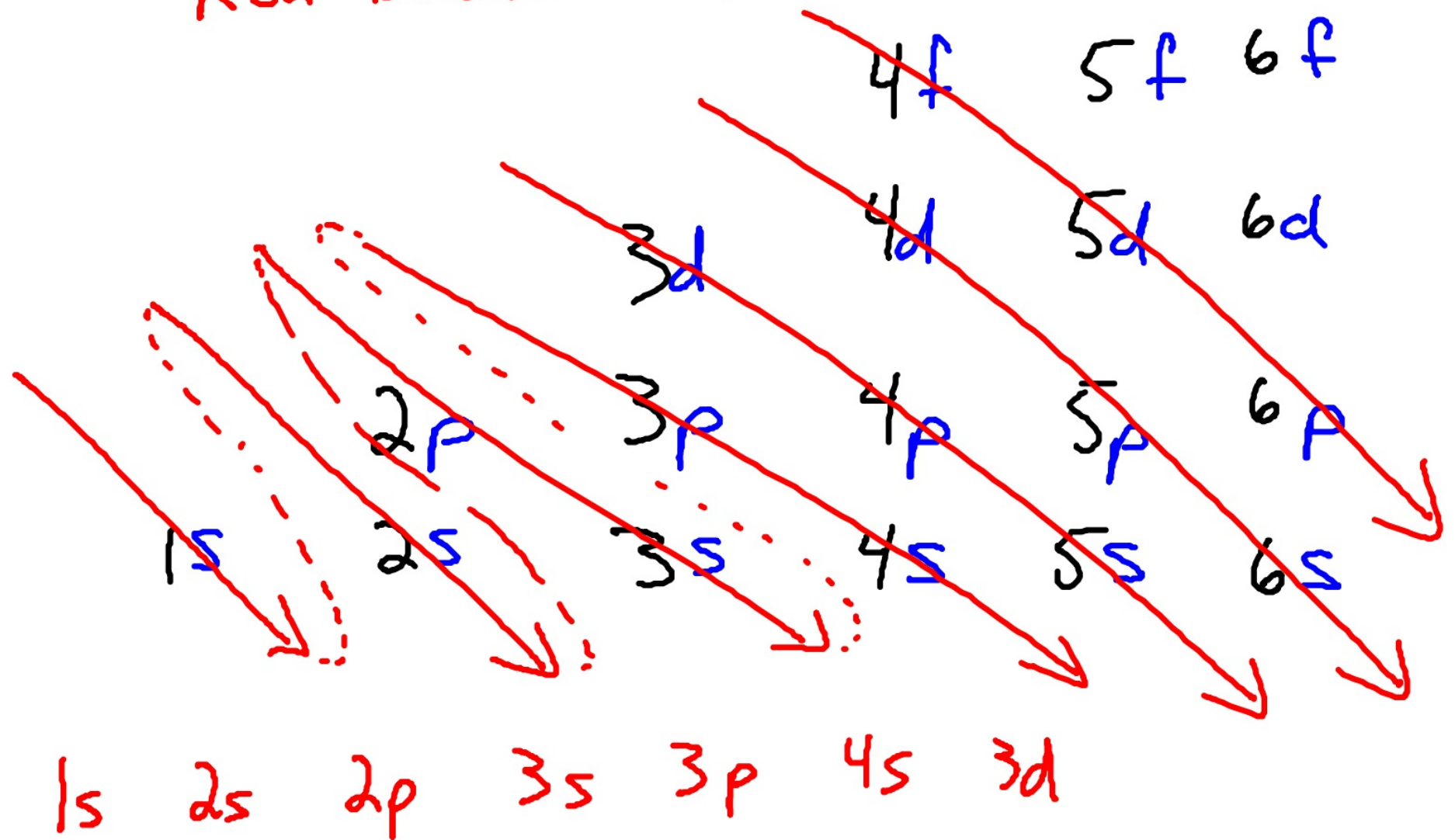
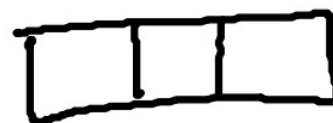


Red Brick Road



	s	p	d	f
# of Boxes "orbitals"	1	3	5	7
# of e^-	2	6	10	14

p "orbital" =

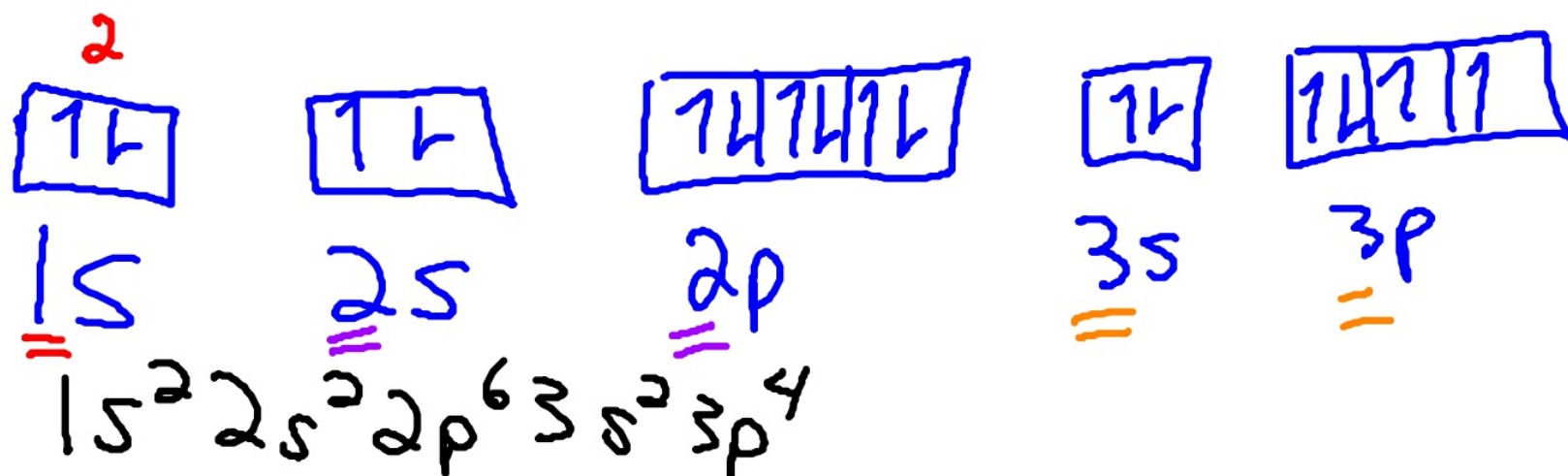
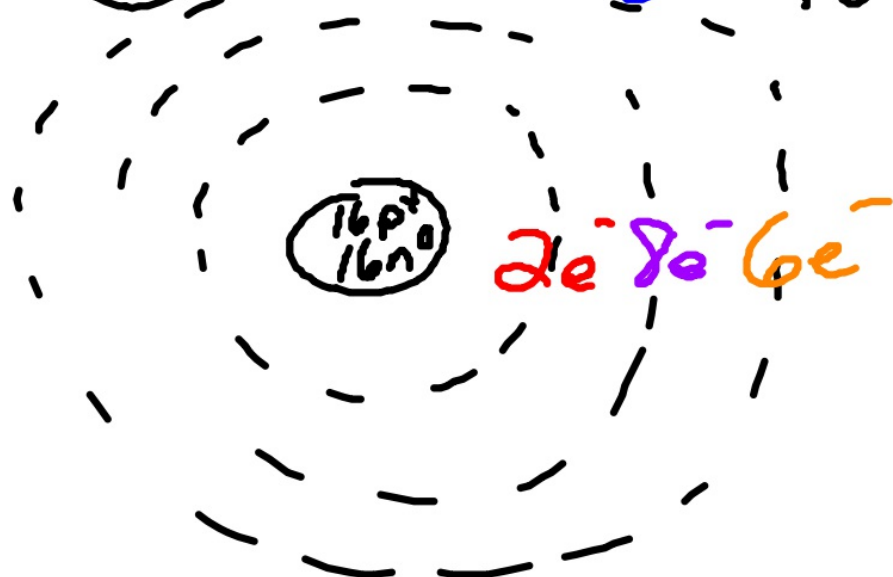


electrons =

\uparrow e^- spinning up
 \downarrow e^- spinning down



No charge so $p^+ = e^-$

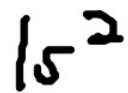




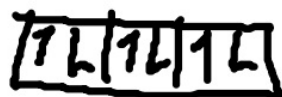
Neutral charge $p^+ = e^-$



1s



2s



2p



3s



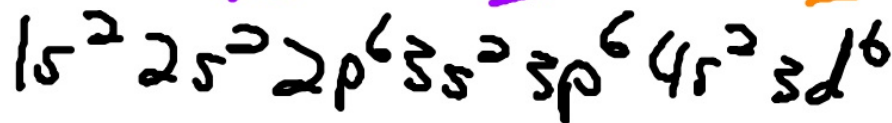
3p

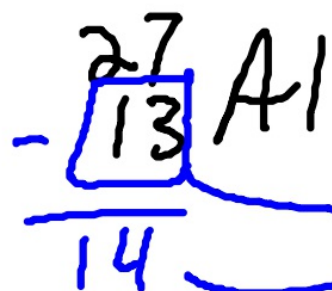


4s



3d

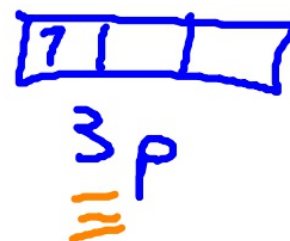
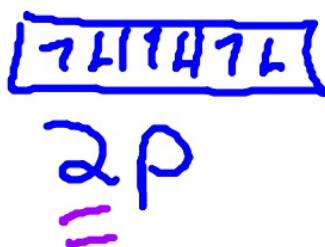
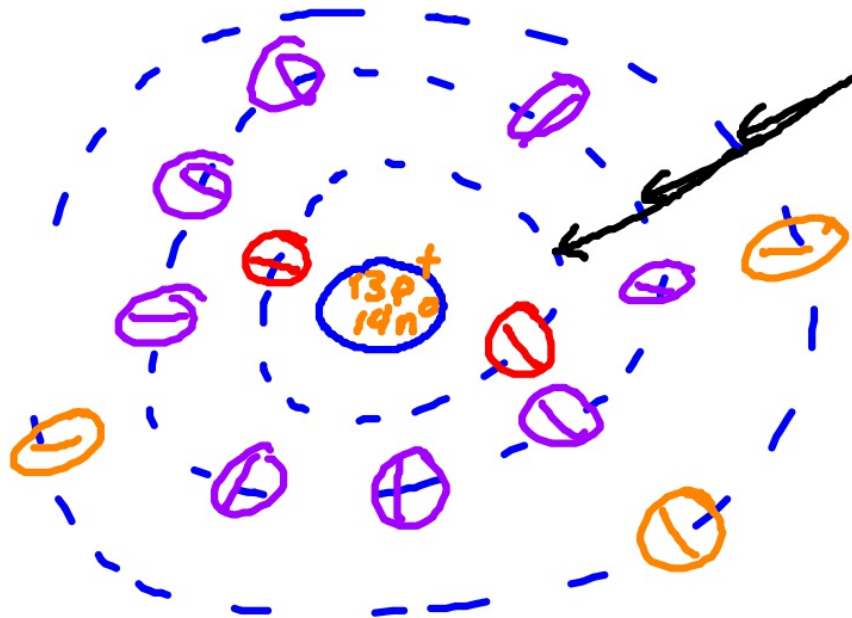


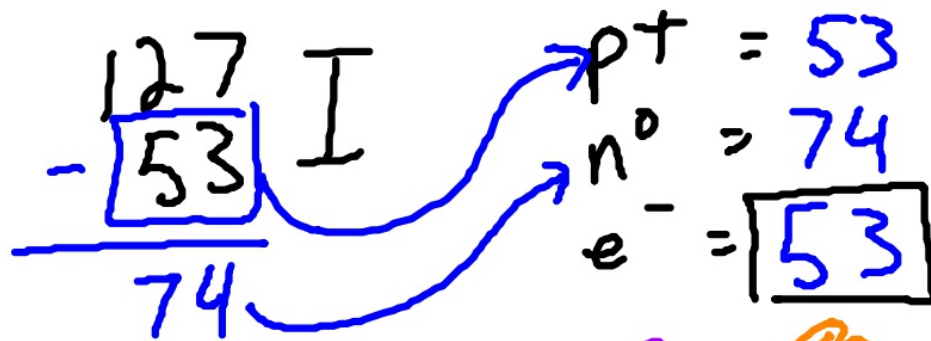


$$\left. \begin{array}{l} p^+ = 13 \\ n^0 = 14 \end{array} \right\} \text{Neutral}$$

$e^- = 13$ Neutral so $p^+ = e^-$

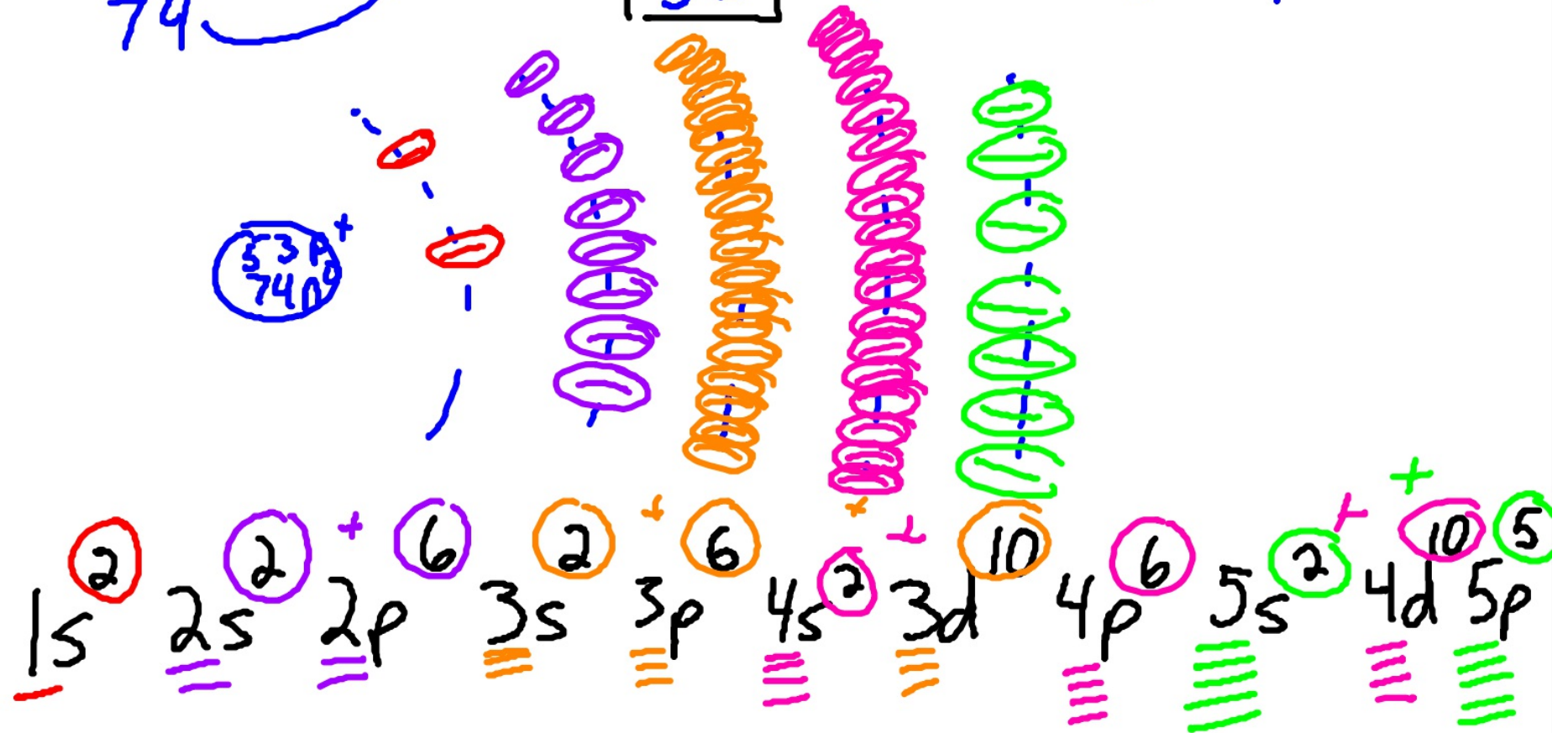
3 rings b.c. Al is in the 3rd period (row)





Valence $e^- = 7$

No charge $p^+ = e^-$



Valence electrons (ve^-)
the electrons in the
OUTER-MOST ENERGY level.

NOTE: The MAX # of

Valence electrons is 8